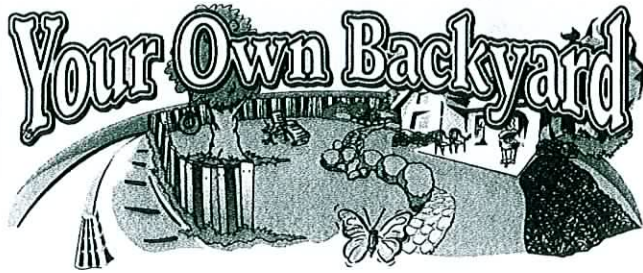


Environmental Protection Begins In...



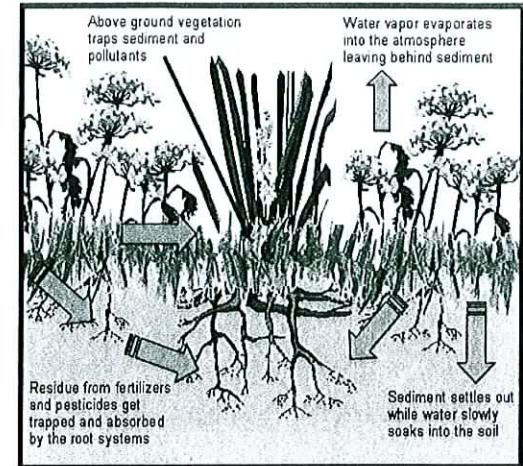
What is a Rain Garden?

A **rain garden** is a landscape feature that captures excess water emitted from a home's downspout and lawn following a rain event. Rain gardens are built with a bowl-like shape and porous substrate, to allow them to hold several inches of water. Excess water detained by the garden can then slowly filter through the soil; instead of being rushed away via a nearby storm drain. Residential lawns that contain rain gardens enable 30% more rain water to infiltrate into the ground than conventional lawns. Rain gardens can also help to filter out common contaminants found around our homes, such as: oil, grease, fertilizers, and pesticides.



Rain gardens are beneficial because they aid in:

- Recharging groundwater supplies
- Prevention of water quality and quantity issues.
- Production of habitat for birds and butterflies.



How to Build a Rain Garden



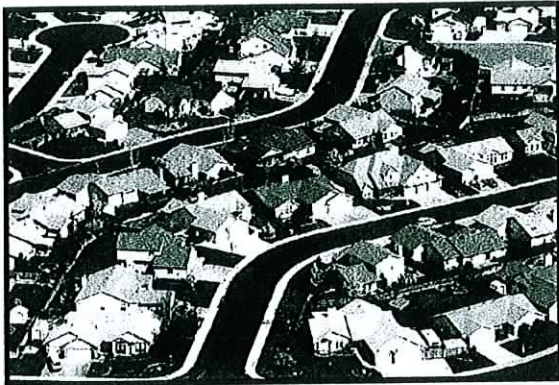
Plants such as **Cardinal Flower**, **Butterfly Weed**, and **Black-Eyed Susan** are used in rain gardens to provide food and shelter for butterflies and birds.

Recycle the Rain

Installing a rain garden is a great way for homeowners to become involved in the protection of their local streams and improve the water quality in their community. Rain gardens are planted with native plants that can tolerate standing water as well as drought conditions. Many gardens feature shrubs as well as wild flowers and grasses. A list of Arkansas native plants that can be used in a rain garden, as well as step-by-step instructions for installing your own rain garden, are provided on the back of this brochure.

WHY SHOULD YOU INSTALL A RAIN GARDEN?

When it rains, excess water flows over our lawns, driveways, and roads into nearby storm drains, eventually making its way to local creeks and streams. Neighborhoods are designed to carry excess water away from our homes as a means to prevent flooding. This process is important for our health, safety, and well-being; but it can have detrimental affects on area waterways.



When small creeks and streams are suddenly bombarded with large amounts of surplus water it can cause major disturbances, such as: streambank erosion, instream habitat destruction, and water quality degradation.

As water flows through our neighborhoods, it picks up and carries with it small particles of herbicides, pesticides, fertilizers, soil, grease, oil, and bacteria found on our roads, around our homes, and in our yards. While the quantity of contaminants coming from a single dwelling may be negligible, the compounded effects from a neighborhood are significant.

Steps taken to decrease the amount of excess water entering storm drains near your home will benefit both your local streams and environment.

Building Your Rain Garden

SIZE CALCULATIONS FOR YOUR RAIN GARDEN:

The size of your rain garden will be determined by the area of your home's roof that will drain to the garden. Measure the footprint of your home to determine how much of your rooftop area drains to the downspout that will flow to your garden; do not take the roof slope into account. The surface area of your garden should be between 20% and 30% of the rooftop area that will drain to the garden.

Rain Garden Sizing Example

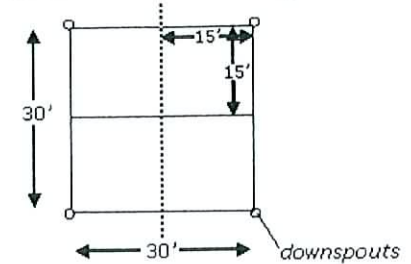
House footprint = 30' x 30'

Drainage area to one downspout = 15' x 15'

15' x 15' = 225 ft²

20% of 225 ft² = 45 ft²

30% of 225 ft² = 67.5 ft²



Using these calculations, the rain garden should be between 45 and 67.5 square feet, depending on soil type. If your soil is naturally sandy, use the 20% calculation.

DIGGING YOUR RAIN GARDEN:

Rain gardens should be located at least 10 feet away from building foundations and utilities. Dig a hole 3 to 4 inches deep across the entire area of the rain garden. You will then fill the basin with a soil mix that will allow fast infiltration of water. A good composition is 50% sand or stone aggregate and 50% organic material (30% compost and 20% topsoil). This mixture will allow excellent root growth and rapid water filtration. If you have heavy clay soil, you can improve it by digging the hole 5 to 6 inches deep and adding additional organic material. Test how the rain garden will hold water by letting water flow into the garden from a water hose placed near the downspout. Based on the test, make any necessary adjustments. For example, you may need to create a berm on the lower side of the garden to hold water in, or you may find that you need to use a downspout extension or dig a shallow ditch to direct water into the garden.

PLANTING YOUR RAIN GARDEN:

A list of drought-tolerant native plants that can bear standing water is given to the right. Take into account the amount of sun your garden will receive when making your selection. Add 2 to 3 inches of shredded hardwood mulch to your garden to help keep the soil moist and prevent weeds. Your garden will require some maintenance when first planted, but those requirements will lessen after the first year once the plants become established.

Native Arkansas Plants for Rain Gardens		
☀ = sun or part sun	☀☁ = part sun/part shade	☁ = shade
FERNS	PERENNIALS	☀ Southern blue flag
☀ Christmas fern	☀☁ Cubeseed iris	☀ Black-eyed Susan
☀ Lady fern	☀☁ Swamp iris	☀ Swamp milkweed
☀ Cinnamon fern	☀☁ Copper iris	☀ Blue star
☀ Rattlesnake fern	☀☁ Mist flower	☀ Marsh blazing star
GRASSES	☀☁ Joe-pye weed	SHRUBS
☀ Fox Sedge	☀☁ Cardinal flower	☀ Vernal witch hazel
☀ Tussock sedge	☀☁ Blue cardinal flower	☀ Carolina allspice
☀ Soft rush	☀☁ Purple coneflower	☀ Virginia sweetspire
☀ Canadian wild rye	☀☁ Butterfly weed	☀ Spicebush